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March 5, 2012

-- Via Federal Express --

Ms. Judith Enck, Regional Administrator
United States Environmental Protection Agency, Region 2
290 Broadway, 26th Floor
New York, NY 10007-1866

Mr. John Gorman, Chief Pesticides and Toxic Substance Branch
United States Environmental Protection Agency, Region 2
Pesticides and Toxic Substance Branch
2890 Woodbridge Avenue, MS-105
Edison, NJ 08837-3679

RE: Self-Implementing PCB Cleanup and Disposal Plan
Troy Chemical Corporation, Inc.
One Avenue L, Newark, Essex County, New Jersey

Dear Ms. Enck and Mr. Gorman:

The ELM Group, Inc. (ELM), on behalf of Troy Chemical Corporation, Inc. (Troy), submits the enclosed Self-Implementing PCB Cleanup and Disposal Plan for review and approval. The Troy Site is located at One Avenue L, Newark, New Jersey and is the subject of a remediation pursuant to the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program. As required by 40 CFR 761.61, the plan presents the characterization and proposed remedial actions to address Polychlorinated Biphenyls (PCBs) in sediment/soil within an out-of-service, concrete-lined, storm water drainage ditch which bisects the Troy property. The scope of work outlined in the enclosed plan was developed based on discussions with Jim Haklar.

The enclosed plan has been provided to the New Jersey Department of Environmental Protection, the Essex County Department of Health & Rehabilitation, and the City of Newark in accordance with 40 CFR 761.61(a)(3).

If you have any questions please contact us at 609-683-4848.

Sincerely,

THE ELM GROUP, INC.

Jeffrey S. Moore, MS, CHMM
Senior Project Manager

Mark D. Fisher, CHMM
Principal

MBP:kmm

Enclosure
- Self-Implementing PCB Cleanup and Disposal Plan (ELM, 02/29/12)

c: New Jersey Department of Environmental Protection
(as Attachment D to ELM's 2/29/12 Remedial Action Workplan)
Edward Capasso – Troy Chemical Corporation, Inc.
(as Attachment D to ELM's 2/29/12 Remedial Action Workplan)
Mike Festa – Essex County Dept of Health & Rehabilitation, Environmental Health Office
Marsha McGowan – City of Newark, Department of Health and Human Services

SELF-IMPLEMENTING PCB CLEANUP AND DISPOSAL PLAN

Troy Chemical Corporation, Inc.
One Avenue L, Newark, Essex County, New Jersey
NJDEP Case No. G000001344

Prepared for:

Troy Chemical Corporation, Inc.
Newark, New Jersey

February 29, 2012

Prepared by:

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1.0 INTRODUCTION

Pursuant to 40 CFR 761.61(a), The ELM Group, Inc. (ELM), on behalf of Troy Chemical Corporation, Inc. (Troy), is notifying the United States Environmental Protection Agency (USEPA) that Troy intends to conduct a self-implementing cleanup of polychlorinated biphenyls (PCBs) at its One Avenue L, Newark, Essex County, New Jersey facility (Figure 1). Specifically, the cleanup will consist of the removal of sediment/soil from an out-of-service, concrete-lined storm water drainage ditch (herein "the ditch" or "the lined ditch") which bisects the Troy property. This document serves as Troy's notification and certification, and presents a summary of the Site characterization and cleanup plan for the PCB remediation wastes at the Site. Please note that the proposed remediation outlined in this Cleanup Plan applies only to the approximately 550 foot extent of the concrete-lined ditch which bisects the Troy property. Unlined drainage ditches are located along Troy's eastern property boundary as well as immediately south of the property (to which the concrete-lined ditch formerly discharged); however, the remediation of these ditches are not included in the scope of work outlined herein.

PCBs (amongst other contaminants) were detected in sediment/soil inside the ditch at concentrations greater than 50 mg/kg during the 2008 Remedial Investigation (RI) conducted pursuant to the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program (SRP). As part of an overall remediation strategy, Troy intends to remove all sediment/soil inside the ditch (including that sediment/soil with PCB concentrations less than 50 mg/kg), backfill the ditch with NJDEP-certified clean fill, and install a concrete cap over the backfilled area. The ditch walls and bottom will remain in place as they provide structural support to buildings and other features abutting the ditch.

Following completion of the remediation efforts described herein, Troy will continue to use the property as an industrial (i.e., chemical manufacturing) facility. The area to be remediated is located in an exterior portion of the property bisecting the main manufacturing area of the plant. Following backfilling and paving of the ditch area, Troy

intends to use the area for transient support functions, such as product storage. Troy does not intend to erect any permanent structures in the remediated area.

Because of the nature of the intended reuse of the remediated area, it is unlikely that any individual will occupy this area for more than 6.7 hours per week. Nevertheless, to allow for a more flexible reuse, this Cleanup Plan assumes individual occupancy of an average of 16.7 hours or more per week (high occupancy). After all sediment/soil is removed from the ditch, a concrete cap will be placed over the entire remediated area, and will meet the criteria for a cap as specified in 40 CFR 761.61.

2.0 SITE DESCRIPTION AND PHYSICAL SETTING

The following sections include a general physical description of the ditch as well as a discussion of the historic development and hydrogeology of the ditch. For completeness, a general discussion of the Troy property and its physical setting, as it pertains to the ditch, is also provided below. A comprehensive discussion of the Troy property is not included herein as this Cleanup Plan specifically addresses the lined ditch. A comprehensive discussion of the physical setting of the Troy property was provided in previous submissions to the NJDEP (ELM, 2010) and can be made available for review upon request.

2.1. General Description and Physical Setting of the Troy Property

Troy operates an active manufacturing facility situated on approximately 5.8 acres located at One Avenue L in Newark, Essex County, New Jersey (i.e., the Site) (Figure 1). With the exception of limited landscaped and grassed areas (located remote to the ditch), the property is entirely covered by surface caps consisting of buildings, concrete, and asphalt (Figure 2). The property is located in the Ironbound District of Newark; a highly industrialized section of the city which was developed prior to 1900 by the emplacement of historic industrial fill over former salt marshes. The Troy property is bounded to the west by Avenue L and industrial/commercial properties; to the north by a Federal Express Distribution Center; and to the east and south by commercial/industrial properties including Continental Hardware and Trading (hardware retailer), Welch, Holme & Clark

Company, Inc. (distributor of crude & refined vegetable oils), and Globe Metals (scrap metal recycler) (Figure 2).

Two ephemeral storm water ditches (both oriented north to south) are present at the property (Figure 2): (1) a concrete and gabion-lined ditch which bisects the center of Troy's operational area (the focus of this Cleanup Plan); and (2) an unlined ditch which runs along Troy's eastern property boundary. Remediation of the unlined ditch is not included as part of this cleanup plan. The lined ditch originates at Troy's northern property boundary and terminates at the southern property boundary. Immediately downstream of the Troy property, the lined ditch and unlined ditch converge within an underground concrete box culvert, which discharges to an unlined channel on the Continental property to the south.

The Troy property is underlain by several unconsolidated strata (ELM, 2004). The uppermost is a heterogeneous assemblage of historic industrial fill material consisting of sand and silt with varying amounts of gravel, brick, concrete, and cinders. The fill layer extends across the entirety of the Troy property and generally extends to a depth of 5-7 feet below grade. Immediately underlying the fill layer is a low-permeability layer of organic-rich marsh deposits composed of peat and silts which is typically 1- 1½ feet thick. A low-permeability glacial till, consisting of clay with lesser amounts of silt and trace sand and gravel, immediately underlies the peat layer. The glacial till layer is generally encountered beginning at 8-9 feet below grade at the Troy Site. The glacial till encompasses the entire Troy property and has thickness exceeding 100 feet in the vicinity of the Site (ELM, 2004). Based on borings and surveying completed at the Troy property, the glacial till layer immediately underlies/envelopes the bottom of the lined ditch.

Groundwater occurs in two principal water bearing units at the Troy property: the shallow water bearing unit within the historic fill and peat layers, and the deeper water bearing unit within the low-permeability glacial till material. On a micro-scale, groundwater flow within the shallow water bearing unit is highly variable, due to the presence of the two

ditches at the Site (See Section 2.4, below). However, regionally, both groundwater and surface water flow south-southeast towards Port Newark Channel/Newark Bay.

There are no residences, schools, hospitals, or parks within a 1,000-foot radius of the Troy property, and about 70 percent of the land surface within this area is covered by structures or other surface caps (asphalt or concrete) (EMCON, 1998; ELM, 2004). Due to its industrial history and development with historic industrial fill, soil, groundwater, and surface water within the Ironbound District of Newark have been contaminated by numerous anthropogenic sources. Regional contamination of groundwater in the Ironbound is well documented and includes elevated levels of petroleum hydrocarbons, aromatic and chlorinated hydrocarbons, PAHs and heavy metals (2B, 1997). Similarly, soil, and surface water in the Ironbound have been documented to contain significantly elevated levels of petroleum hydrocarbons, PAHs and heavy metals (particularly lead and arsenic), primarily due to the ubiquitous presence of historic industrial fill in the area.

2.2. Physical Description of the Concrete-Lined Ditch

The ditch to be remediated is a completely channelized, fortified (with concrete and gabion walls) channel which was formerly utilized for storm water conveyance for the Ironbound (Figure 3). There are currently no storm water inputs to the channel from Troy or surrounding properties with the exception of precipitation directly falling into the channel. The length of the lined ditch is approximately 550 ft, spanning the entire north-south extent of the Troy property, and bisecting the main operational area of the plant. The width of the ditch varies across its length but, in general, is approximately 18 ft at the upstream (northern) end, tapering down to approximately 6 ft at the downstream (southern) end. The areal extent of the ditch is approximately 5,700 square feet. The ditch is constructed with a combination of concrete and stone gabion walls. Gabion comprises approximately 30% of the 1,000 ft of ditch wall and is present at both the northern (both sides) and southern (east side only) extents of the ditch (Figures 2 and 3). The remainder of the ditch walls is constructed of concrete. The height of the concrete/gabion walls relative to the base of the ditch vary significantly along the length of the ditch ranging from

approximately 6 to 15 ft. Top of soil/sediment within the ditch is generally 3-4 feet below grade, except in the northern portion of the ditch where it is approximately 10 feet below grade. The top of the concrete walls are generally two to three feet above surrounding grade, while the top of gabion walls are generally half a foot above surrounding grade. A concrete slab forms the bottom of the ditch.

The ditch liner was constructed at various times spanning from circa 1950 to 1980. The ditch was lined using variable construction methods over this span to facilitate storm water drainage and to provide support to structures being constructed proximate to its sides. In some instances, building foundations are integral to (a part of) the ditch liner. The concrete walls and bottom of the ditch in the central, operational portion of the property is constructed of thick (generally greater than eight inches) concrete and was built before 1953 when Troy's predecessor took ownership of the property. The extreme north and south ends of the ditch were subsequently lined with stone gabion by Troy. The ditch bottom in these areas is reported to be solid; however, no information is available regarding the material of construction.

The material located within the ditch is a combination of soil and sediment and is a heterogeneous, highly organic assemblage of sand and silt with interspersed fill material, refuse, and vegetative matter. Overall sediment/soil thickness within the ditch ranges from a maximum of 3.5 feet at the northern end, tapering down to approximately 2.5 feet at the southern end. From surface to approximately 6 inches below top of sediment/soil (BTS), the material is similar to a course to fine grained soil with interspersed vegetation and root matter. Below the surface sediment/soil and extending to the bottom of the ditch is a layer of fine sand and silt.

2.3. Historical Development and Use of the Concrete-Lined Ditch

The concrete-lined ditch (as well as the downstream, unlined storm water channel) had previously been used for over 100 years as an urban storm water drainage structure for Newark's Ironbound District. The ditch was originally constructed as an unlined ditch

sometime prior to 1892, and served as a drainage feature to facilitate the development of the Ironbound District. As the Ironbound developed, the ditch became the receiving body for storm water runoff from approximately 750 acres of industrial properties to the north of Troy through the Wilson Avenue storm sewer system. As a result, sediment/soil along the entire length of the ditch (including locations on and off the Troy property) has been significantly impacted by anthropogenic chemical sources as a result of both point and non-point source discharges (ELM, 2010).

The ditch previously originated at Wilson Avenue, on the adjacent northern property currently occupied by FedEx (Figure 4). As discussed above, this ditch served as the discharge point of the Wilson Avenue storm sewer system. In 2002, the City of Newark rerouted the Wilson Avenue storm water into a storm sewer installed along Avenue L. The Avenue L storm sewer discharges to the unlined storm water channel located on the Continental property via an underground box culvert located immediately south of the Troy property (Figure 4); bypassing the concrete-lined ditch on the Troy property. A NJDEP-approved remedial action previously conducted on the FedEx property to the north of Troy resulted in the backfilling of the ditch to surrounding Site grade, making the Troy property the origin of the ditch. As part of redevelopment in 2008, storm water catchments were installed at the FedEx facility routing all storm water runoff to the Avenue L storm sewer. In December 2008, Troy sealed the underground pipe that previously conveyed storm water from the unlined ditch on the FedEx property to the lined ditch on the Troy property, at the property boundary. As such, there are currently no storm water inputs to the ditch, other than storm water falling on the ditch during rain events.

2.4. Surface Water Conditions/Hydrogeology

As indicated above, there are currently no significant storm water inputs to the lined ditch, nor any process discharge. Storm water runoff at the Troy property is managed through a series of in-ground trenches which connect to the facility's on-site waste water treatment plant. Treated water is discharged to the Passaic Valley Sewerage Commission (a publicly

owned treatment works). Surface water is only present within the lined ditch during, and immediately following rain events; the result of storm water falling into the ditch. Under base flow conditions, surface water (if present) generally only exists as isolated pools within depressions in the sediment/soil surface, with no discernible flow.

Based on the results of previous investigations, some seepage of groundwater occurs to the lined ditch (Figure 4). This is supported by observations that, in general, sediment/soil becomes saturated approximately 6 inches to 1 ft BTS; coincident with groundwater elevations for the Site. Groundwater seepage is predicted to occur primarily in the gabion-lined sections of the ditch located at the northern and southern extents of the ditch. During the completion of a pilot stabilization test completed in April 2011, small breaches were observed in the eastern wall of the ditch, near the center of the Troy property (area of sampling transect PC-3 (Figure 2)). Based on these observations, groundwater seepage is likely occurring in the concrete-lined portions as well (Figure 4) in some locations. Nonetheless, given the low hydraulic gradient, moderate hydraulic conductivity, and small saturated thickness of the shallow water bearing unit, as well as the presence of low-permeability peat and/or glacial till layers enveloping the base of the ditch, the groundwater seepage rate is predicted to be nominal.

3.0 SITE CHARACTERIZATION

Sediment/soil within the lined ditch was characterized for PCBs during two field mobilizations completed by ELM, during which a total of 58 samples were analyzed. The first mobilization, completed in May 2008, consisted of the collection of samples at five transect locations within the ditch. Analytical results from these samples indicated a concentration of PCBs in excess of 50 mg/kg at three transects (Figure 5, Table 1). To delineate the areas of PCB-remediation waste, ELM collected additional samples in August/September 2011 at six additional transects within the ditch. A summary of the sampling methodology and discussion of the results is presented in Sections 3.1 and 3.2, respectively. A summary of analytical data for those samples analyzed for PCBs is provided on Figure 5 and Table 1.

3.1. Characterization Methodology

During the May 2008 event, samples were collected from five transects within the ditch (PC-1 through PC-5, Figure 5). Samples were collected by manually advancing two cores to the bottom of the ditch at each transect. One core was advanced between the centerline and the eastern wall of the ditch, and the second core was advanced between the centerline and the western wall of the ditch. In general, sediment/soil thickness ranged from 3.5 feet at transect PC-1 to 2.5 feet at transect PC-5. At each coring location, sediment/soil samples were collected at three unique depths: (1) the top six inches of sediment/soil (surface); (2) the six inch-interval immediately overlying the base (concrete slab) of the ditch; and (3) within the sediment/soil column, biased towards greatest field evidence of impact.

During the August/September 2011 field mobilization, ELM collected sediment/soil samples from 6 additional transects located 10 and 25 ft south of PC-1; 20 and 50 ft north and south of PC-3; and 10 and 25 ft north of PC-5 (Figure 5). Sampling methodologies were similar to those during the May 2008 event. At each of the six transects, two cores were advanced manually to the bottom of the ditch. One core was advanced between the centerline and the eastern wall of the ditch, and the second core was advanced between the centerline and the western wall of the ditch. Samples were collected at appropriate depths to delineate PCB detections above 50 mg/kg within each of the three original transects (PC-1, PC-3, and PC-5). Samples were collected from two discreet depths within each core, within the exception of those transects north of PC-5, in which samples were collected at three depths. Samples collected at 2011 transects closest to the original (2008) transects were released for analysis upon receipt at the laboratory. Samples collected from those 2011 transects farther from the original (2008) transects were held as contingent samples to be released if needed. The results of the sediment/soil characterization samples are summarized on Figure 5 and Table 1.

3.2. Summary of Characterization Results

Based on the collective data set, sediment/soil in the ditch is impacted with PCBs; however, delineation of PCB remediation waste areas has been achieved. The highest detection of

PCBs in sediment/soil is at depth near the southern boundary of Troy property (PC-5 – Figure 5) (ELM, 2010). However, concentrations of PCBs in samples collected at transects upstream of this area and adjacent to Troy operational areas show significantly lower concentrations – concentrations of PCBs lower than that detected at the most upstream sampling transect (PC-1). Out of 58 samples analyzed for PCBs, 49 samples contained PCB concentrations below 50 mg/kg. PCB concentrations ranged from non-detect (ND) to 144 mg/kg, with a mean concentration of 23.2 mg/kg.

In summary, the results of the characterization sampling indicate that sediment/soil with PCB concentrations exceeding 50 mg/kg are limited to three discrete areas of the ditch (Figure 5): (1) Area 1 located in the extreme northern portion of the ditch ending from the northern property boundary to transect PC-1-10S (approximately 15 linear ft); (2) Area 2 located in the central portion of the ditch extending from transect PC-3-20N south to PC-4 (approximately 190 linear feet); and (3) Area 3 located in the southern portion of the ditch extending from transect PC-5-25N south to the southern property boundary (approximately 50 linear feet).

4.0 SELF IMPLEMENTING CLEANUP AND DISPOSAL OF PCB REMEDIATION WASTE

The lined ditch on the Troy property is being remediated under the NJDEP SRP. The sediment/soil within the ditch contains as-found concentrations of PCBs (amongst other contaminants) in excess of 50 mg/kg - greater than the applicable cleanup objectives. Therefore, remediation of the lined ditch will be completed in accordance with the requirements of 40 CFR 761.61.

4.1. General Remediation Approach

The general remedial approach for the lined ditch is the excavation and off-site disposal of PCB impacted sediment/soil, backfill of the ditch with certified clean fill, installation of a concrete cap, and execution of a deed notice for the Site. This section summarizes the general and logistical approach that will be implemented for the completion of the remedial action.

4.1.1. Delineation Sampling

In-situ PCB delineation sampling was conducted prior to development of this Cleanup Plan, and is summarized in Section 3. Delineation of the areas with PCB concentrations in excess of 50 mg/kg is complete. Therefore, no additional characterization sampling is proposed as part of remediation of the ditch.

4.1.2. Sealing of Downstream Ditch Box Culvert

Prior to the initiation of any invasive work within the ditch, the approximately 6 foot opening to the box culvert located immediately south of the Troy property will be sealed (Figure 3). The sealing of the culvert will prevent off-site migration of water and sediment/soil from the work area during remedial activities. Please note that this is the only portion of the ditch currently which is not walled in by concrete or gabion walls. The seal will be designed by a licensed New Jersey Professional Engineer such that it will be a permanent structure to remain in place after the completion of the remediation.

4.1.3. In-Situ Stabilization

As discussed previously, the majority of sediment/soil within the ditch is water-saturated. To facilitate its removal and amend it for proper transportation, sediment/soil will be stabilized in place within the ditch. The *in-situ* stabilization will also serve as a method of minimizing waste water generation during remediation. Stabilization will be accomplished through mixing of sediment/soil with cement kiln dust (CKD). CKD will be added to and mixed with the sediment/soil using excavators beginning at the northern and southern extents of the ditch. After the stabilized sediment/soil in these areas has cured, a small excavator will be placed into the ditch to stabilize the next section. This process will continue, progressing to the north and south until all sediment/soil has been stabilized. The stabilization will be completed in a manner to ensure that areas of PCB concentrations in excess of 50 mg/kg (Figure 5) remain segregated from the remaining sediment/soil within the ditch.

The percentage of CKD added is expected to vary somewhat along the length of the ditch based on varying conditions; however, based on the results of a treatability study/pilot test completed by Troy/ELM, it is anticipated that an approximate ratio of 30% by weight of CKD will be required.

4.1.4. Excavation, Staging, and Off-Site Disposal

Following curing, stabilized sediment/soil will be removed from the ditch by excavators located in the equipment accessible areas along the northern, central, and southern portions of the ditch (Figure 2). The excavation will extend horizontally and vertically until the ditch walls and bottom are encountered (i.e., complete removal of soil/sediment). All sediment/soil adjacent to/atop the liners will be removed; however, removal of the liners themselves is not practicable as the sidewall liners of the ditch serve to provide structural support for the foundations of adjacent buildings, or (in some cases) the walls are integral to the foundation of adjacent buildings (See Section 2.2). If areas are encountered in which no concrete bottom exists, the excavation will be extended into the underlying glacial till material to a depth at which no visual evidence of impact is observed (anticipated to be not more than 1 foot into the till given its extremely low permeability - measured hydraulic conductivity of $1.7x10^{-6}$).

Upon removal, stabilized sediment/soil will be immediately containerized in roll-off containers meeting the requirements of Department of Transportation Hazardous Materials Regulations (49 CFR Parts 171 through 180), pursuant to 40 CFR 761.65(c)(6). Sediment/soil removed from those areas of the ditch with PCB concentrations excess of 50 mg/kg will be segregated from sediment/soils excavated from outside these areas. Once full, the containers will be covered and staged in a paved area in the southeastern portion of the Site (Figure 2) to await transport to the appropriate disposal facility. All storage of PCB remediation waste will be consistent with the applicable requirements of 40 CFR 761.65. In addition, covered roll-offs will be marked with sign/labels in accordance with 40 CFR 761.45.

In preparation for off-site disposal, waste samples will be collected of the stabilized sediment to satisfy Resource Conservation and Recovery Act (RCRA) characterization requirements. As PCBs were pre-characterized/pre-delineated *in-situ* (at-found concentrations), no additional waste characterization samples for PCBs will be collected unless unanticipated conditions suggestive of higher concentrations or wider distribution of PCB remediation waste are found.

Following proper characterization, the stabilized sediment will be transported off site to appropriate disposal facilities. Sediment/soil excavated from those areas in which PCBs were detected at at-found concentrations exceeding 50 mg/kg will be disposed of at an approved chemical waste landfill pursuant to 40 CFR 761.75. Sediment excavated from those areas in which PCBs were detected at at-found concentrations less than 50 mg/kg will be disposed of at a licensed facility based on the results of the RCRA characterization samples and PCB concentrations. Troy will ensure that all transported wastes are properly received at the facility and will obtain and retain copies of the final disposal manifests. Pursuant to 761.25(c)(5), all waste characterization analysis and final disposal manifests will be maintained at the Site.

4.1.5. Post-Excavation Verification Sampling

Post-excavation verification sampling will be completed compliant with the requirements of 40 CFR 761 Subpart O. Both the concrete and the gabion material (basalt rock) comprising the ditch liner (sides and bottom) are considered porous material for the purposes of developing this sampling plan. Please note that the proposed program is extremely conservative (entails collection of over 300 subsamples) and will provide the necessary data distribution and density to thoroughly evaluate post-remedial conditions. A general overview of the post-excavation verification sampling program is provided on Figure 6. Due to the variable construction of the ditch walls, sample collection within the ditch has been subdivided into three segments:

- Segment 1 extends from the northern property boundary south approximately 145 feet. Both the eastern and western walls of the northernmost 75 feet of this segment are constructed of gabion. The eastern wall of the southernmost 70 feet of this segment is constructed of gabion, while the western wall is constructed of concrete. A concrete slab forms the base of the ditch in this segment.

- Segment 2 is located in the central portion of the property, beginning at the southern end of Segment 1 and extending south approximately 290 feet. Throughout this segment, the ditch walls (both eastern and western sides) are constructed of concrete. A concrete slab forms the base of the ditch in this segment.

- Segment 3 extends from the southern end of Segment 2 south to the property boundary (approximately 100 feet). The eastern ditch wall in this segment is constructed of gabion, while the western wall is constructed of concrete. A concrete slab forms the base of the ditch in this segment.

In summary, grab subsamples of the ditch liner (sides and bottom slab) will be collected across ditch transects (east to west) marked out every five feet down the length of the ditch (Figure 6). At each five foot transect, a minimum of three subsamples will be collected: one from the concrete base; and one each from the interior of both sidewalls. Wall samples (concrete or gabion) will strictly be collected from the bottom three feet of the wall (from base) as this represents the average height of sediment in contact with the walls (currently and historically). Subsamples of the concrete slab/base will be collected along the centerline of the base across the entire ditch and two additional concrete slab subsamples will be collected across the wider portion of the ditch (Segment 1) (Figure 6).

Concrete and gabion subsamples will be composited in accordance with 40 CFR 761.289(b)(1)(i), as depicted on Figure 6. Please note that concrete and gabion subsamples will not be composited within the same sample. Compositing will be

completed by homogenizing equal weights of concrete or gabion as described further below:

- ***Segment 1:*** In the northern-most portion of Segment 1 (ditch constructed with gabion liner on both sides and wider ditch width), three concrete base subsamples will be collected across each transect and composited every three transects (nine sample point composite). In addition, on each ditch wall, one gabion subsample will be collected at each transect and composited every six transects. All six gabion subsamples will be composited from the same wall (no composite mixing from east to west wall).

  In the southern-most portion of Segment 1 (area with gabion liner comprising only the eastern wall and narrower ditch width), two concrete base subsamples and one western wall subsample will be collected across each transect and composited every three transects (nine sample point composite). In addition, one gabion subsample will be collected at each transect from the eastern wall and composited every six transects.

- ***Segment 2:*** Within Segment 2 (ditch constructed with concrete walls and base) one concrete base subsample and two concrete wall subsamples (one per wall) will be collected across each transect and composited every three transects (nine sample point composite).

- ***Segment 3:*** Within Segment 3 (ditch constructed with a gabion liner along only the eastern wall, and narrow ditch width), one concrete base subsample and one concrete wall sample (western wall only) will be collected at each transect and composited every four transects (eight sample point composite). In addition, one gabion subsample will be collected at each transect from the eastern wall and composited every six transects.

Composite concrete and gabion samples will be submitted to a New Jersey certified laboratory for analysis of PCBs via method SW846-8082.

Should areas be encountered in which the concrete liner is absent or is significantly degraded, grab samples will be collected from the underlying glacial till material according to the gridding program described above, with separate composite samples prepared for soil.

If the results of the verification sampling indicate that PCBs remain above the 10 mg/kg cleanup goal, additional cleanup and remediation will be completed and post-excavation verification samples will be recollected in accordance with 40 CFR 761.283(b)(ii).

4.1.6. Backfilling of Ditch and Installation of Concrete Cap

Following confirmation that the PCB cleanup goals have been met, the ditch will be backfilled to surrounding grade. In preparation for backfilling, where applicable, the portions of the concrete ditch walls above surrounding surface grade (never in contact with sediment/soil) will be cut down to surrounding grade. Concrete generated during this activity will be containerized on site in roll off bins and will be characterized and disposed of off site consistent with the NJDEP Guidance for Characterization of Concrete and Clean Material Certification for Recycling (NJDEP, 2010), which includes sampling for PCBs. Backfill will conform to the requirements of NJDEP-certified clean structural fill (per N.J.A.C. 7:26E-6.4(b)2) (NJDEP, 2011).

Following the installation and compaction of the backfill, the former area of the ditch will be capped with reinforced concrete. The cap will be designed in coordination with Troy engineers such that storm water collected on the newly installed cap will be captured in the facility's existing storm water management system. The concrete cap will be a minimum of 6 inches thick and be designed to meet the requirements of 40 CRF 264.310(a) and 40 CFR 761.75(b)(1)(ii through v).

4.1.7. Deed Restriction

The NJDEP has previously approved the use of a deed restriction as a final remedy for soil contamination at the Site. The area of the former ditch will be incorporated into the site-

wide deed restriction in accordance with 40 CFR 761.61(a)(8). The format of the deed restriction will be in accordance with the NJDEP requirements and will be filed with Essex County.

4.2. Cleanup Levels Based on End Occupancy Use – High Occupancy Use with an Engineering Control

As discussed previously, the ditch is constructed with a combination of concrete and rock gabion walls and a concrete slab bottom (Figure 2). Given that the ditch walls and bottom vary along its length, it is expected that two different media will require post-remedial verification sampling:

(1) concrete and gabion walls and concrete bottom of the ditch (porous materials); and

(2) soil from the underlying glacial till (if concrete bottom is absent or degraded in portions of the ditch).

The cleanup levels for Site PCBs are based on the occupancy levels as defined by 40 CFR 761.61(a)(4)(i). Currently the area to be remediated is a drainage ditch with no human occupancy. Following the completion of remediation (including backfill and capping of the area), Troy intends to use the area for transient support functions, such as the exterior storage of raw materials or finished product. Troy does not intend to erect any permanent structures in the remediated area.

Because of the nature of the intended reuse of the remediated area, it is unlikely that any individual will occupy this area for more than 6.7 hours per week. Nevertheless, to allow for more flexibility in the reuse of this area, this Cleanup Plan assumes individual occupancy of an average of 16.7 hours or more per week, which constitutes high occupancy use. After all sediment/soil is removed from the ditch and the channel is backfilled, a reinforced concrete cap will be installed over the entire remediated area. The cap will meet the criteria specified in 40 CRF 264.310(a) and 40 CFR 761.75(b)(1)(ii through v).

Given the use of the cap and high occupancy scenario, the cleanup objective for the concrete and gabion walls and concrete bottom will be 10 mg/kg.

5.0 SCHEDULE

A schedule for the implementation of the proposed remediation is provided in Attachment 1.

6.0 NOTIFICATION AND OWNER CERTIFICATION

Submission of this Cleanup Plan serves as 30-day notification to the EPA Regional Administrator of the start of cleanup operations at the Troy Site. Concurring with this submission, this Cleanup Plan will also be submitted to the NJDEP and Essex County Health Department.

A copy of the Owner's Certification prepared in accordance with 40 CFR 761.61(a)(3)(i)(E) is included as Attachment 2 to this document.

7.0 SUMMARY OF PROPOSED REMEDIATION

Sampling for PCBs has been conducted in the concrete-lined ditch on the Troy Site as part of an ongoing investigation conducted under the auspices of the NJDEP SRP. Results of this investigation indicate that sediment/soil with total PCB concentrations exceeding unrestricted use standard (1 mg/kg) are present in the concrete-lined ditch at the Site. The selected remediation strategy for addressing the PCB contamination is the complete removal of all impacted sediment/soil. This self-implementing plan has been developed to provide details of that remediation including Site characterization data, a description of how the remedy will be implemented, and how cleanup verification sampling will be completed.

The proposed cleanup goals for the site have been developed based on the current and projected future land use for the Site and the area being remediated. Post-excavation verification sampling will confirm that removal activities have achieved the applicable

cleanup levels or additional cleanup and decontamination of gabion will be performed. In accordance with 40 CFR 761.61(a)(8), the remediated area will be incorporated in the NJDEP-approved deed restriction for the Site and the remediated area will be capped.

Based on the considerations above, Troy's proposed remediation activities are protective of human health and the environment. The remediation activities will reduce the PCB concentrations at the site to the required TSCA cleanup levels and will eliminate potential exposure pathways to the PCBs at the Site.

8.0 REFERENCES

2B, 1997. Petition to Reclassify Ground Water in the Ironbound Section of Newark. 2B Environmental, Inc. 1997.

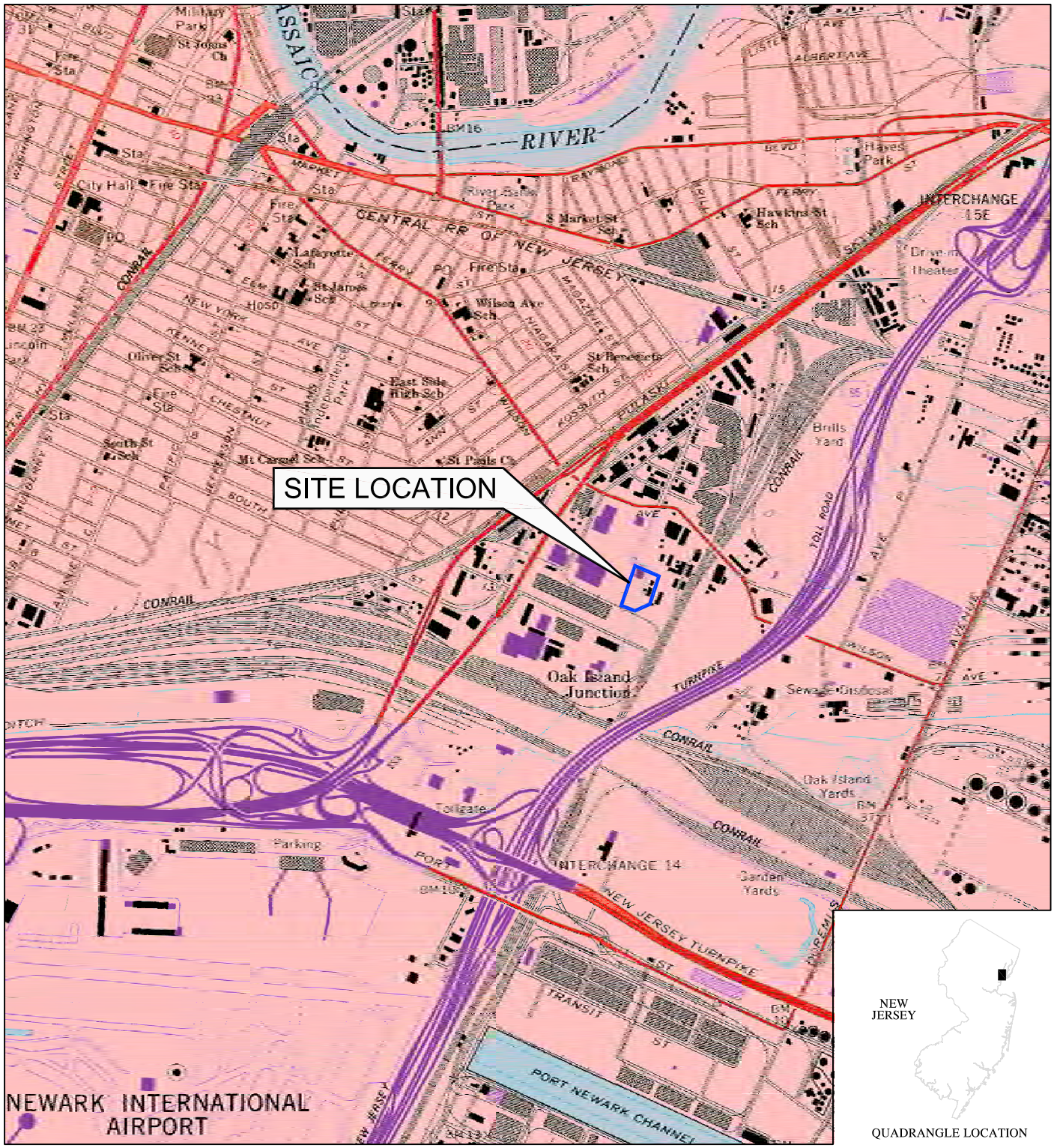
ELM, 2010. Remedial Investigation Report for Sediment and Surface Water. The ELM Group, Inc. July 21, 2010.

EMCON, 1998. Remedial Investigation Report, Troy Chemical Corporation, Inc. EMCON. February 1998.

NJDEP, 2010. Guidance for Characterization of Concrete and Clean Material Certification for Recycling. New Jersey Department of Environmental Protection. Updated January 12, 2010.

NJDEP, 2011. Technical Requirements for Site Remediation (N.J.A.C. 7:26E). New Jersey Department of Environmental Protection. Last Amended October 3, 2011.

FIGURES

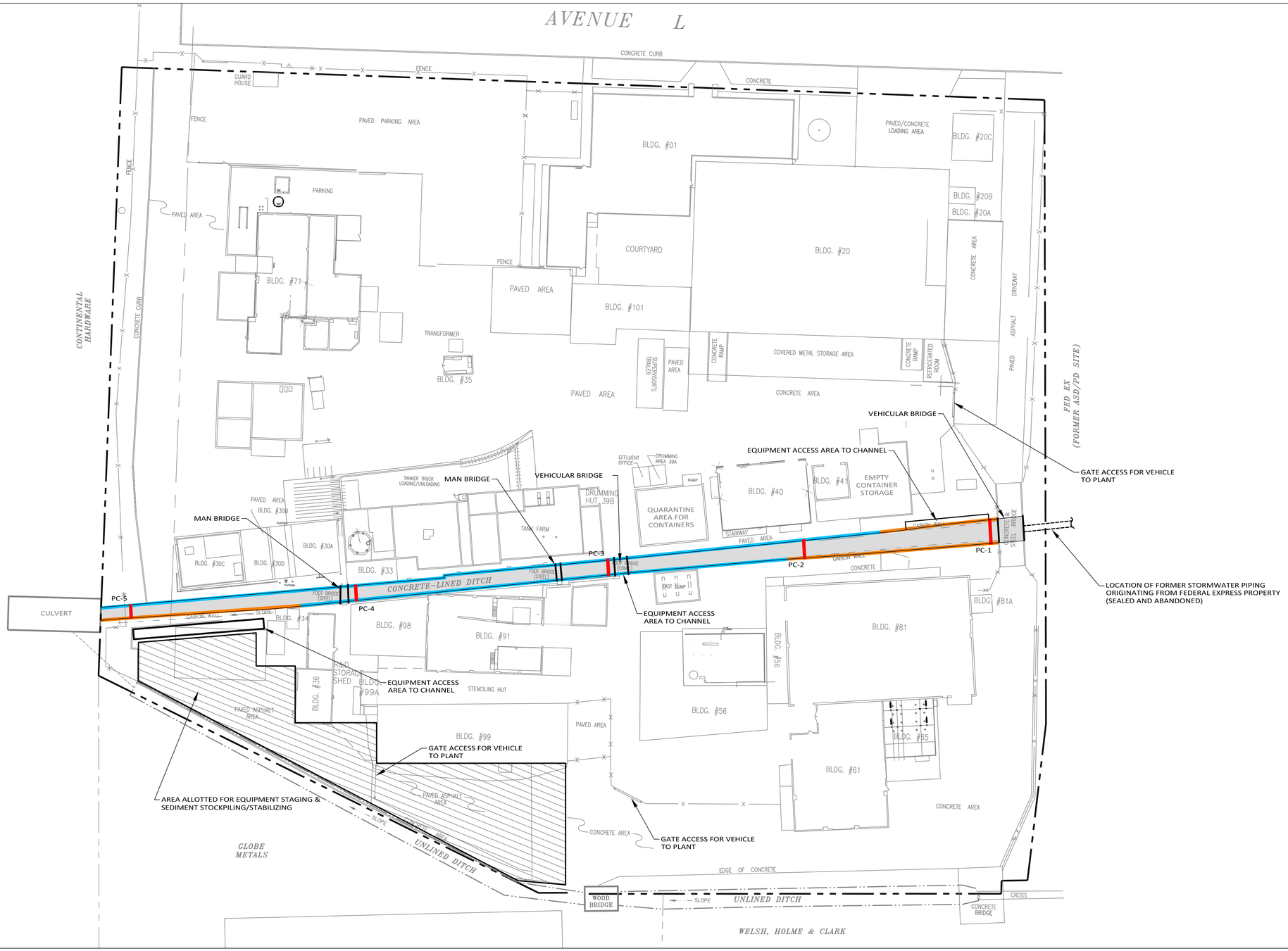


0 2000 4000

SCALE: Custom

TITLE:	FIGURE 1 SITE LOCATION MAP
LOCATION:	TROY CHEMICAL CORPORATION ONE AVENUE L NEWARK, ESSEX COUNTY, NEW JERSEY
STATE PLANE COORDINATE (NAD 83):	N 684,225 E 589,105
DATE:	9/26/11
FILENAME:	95127_SITELOC
LAYOUT:	SITE_LOCATION
SOURCE:	USGS TOPO, ELIZABETH, NJ-NY, N.J. QUAD

THE ELM GROUP
218 WALL STREET, PRINCETON, NEW JERSEY 08540
4920 YORK ROAD, SUITE 290, HOLICONG, PENNSYLVANIA 18928 612
MAIN STREET, BOONTON, NEW JERSEY 07005
267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007
2475 BAGLYOS CIRCLE, BETHLEHEM, PENNSYLVANIA 18020
www.ExploreELM.com



LEGEND

- PROPERTY BOUNDARY (APPROXIMATE)
- FENCE
- CONCRETE WALL
- GABION WALL
- AREA OF SEDIMENT REMOVAL/DISPOSAL
- AREA ALLOTTED FOR EQUIPMENT STAGING/STORAGE AND STAGING OF CONTAINERIZED SEDIMENT
- PC-2 SAMPLING TRANSECT LOCATION AND ID
- BRIDGES SPANNING LINED DITCH

SOURCE:
1. "FACILITY SITE PLAN", PROVIDED BY TROY CHEMICAL COMPANY, INC., DATED 4/15/97, LAST REVISED 5/10/02, DRAWING NO. 0521.

0 30 60
SCALE: 1" = 30'

TITLE:
FIGURE 2
GENERAL SITE MAP SHOWING CONSTRUCTION DETAILS FOR THE LINED DITCH, LIMITS OF SEDIMENT REMOVAL, AND OTHER DETAILS

LOCATION:
TROY CHEMICAL CORPORATION, INC.
ONE AVENUE L
NEWARK, NEW JERSEY

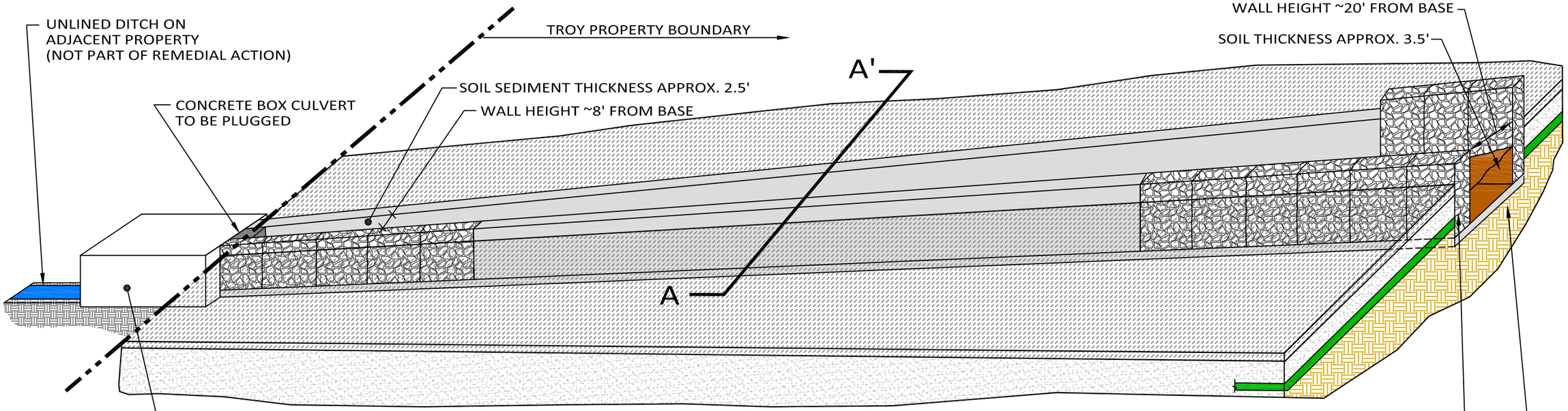
DATE: 2/24/12

FILENAME: 95127_SAMPLES-REV1

LAYOUT: CON_DET_D

THE ELM GROUP
216 WALL STREET, PRINCETON, NEW JERSEY 08540
4920 YORK ROAD, SUITE 290, HOLICONG, PENNSYLVANIA 18928
612 MAIN STREET, BOONTON, NEW JERSEY 07005
267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007
2475 BAGLYOS CIRCLE, BETHLEHEM, PENNSYLVANIA 18020
www.ExploreELM.com

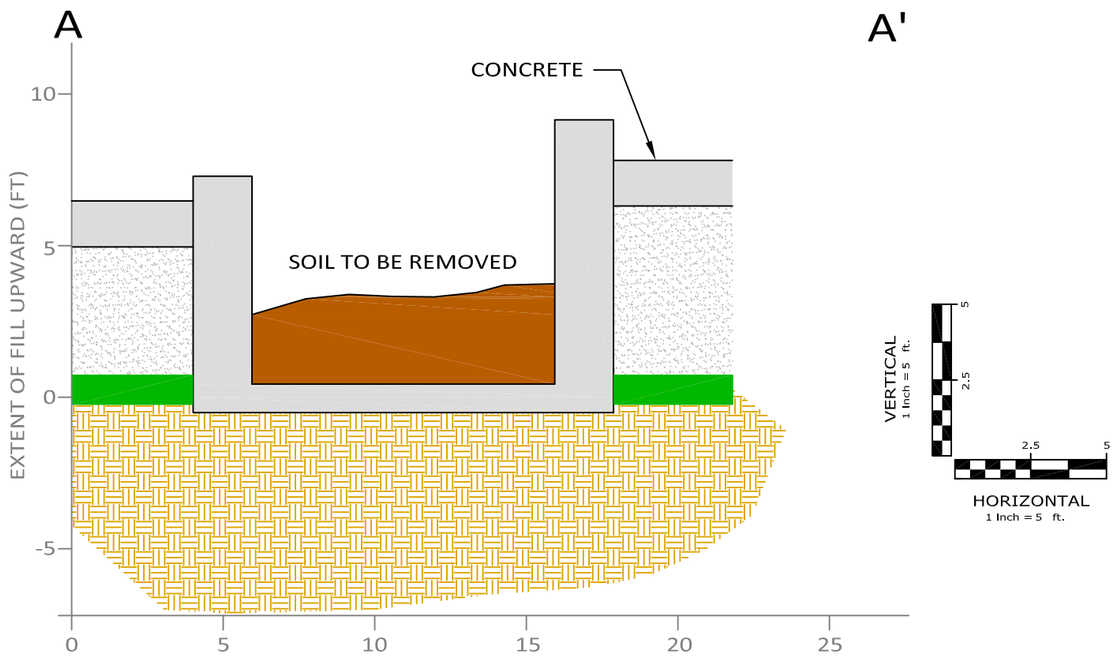
G:\95127-Troy\CAD\95127_SAMPLES-REV1.dwg, CON_DET_D, 3/1/2012 9:35:59 AM, bruce



ISOMETRIC VIEW OF CONCRETE LINED DITCH

0 40 80

APPROX. SCALE: 1" = 40'



PC-3 CROSS-SECTION A-A'

LEGEND

- GABION WALL
- CONCRETE WALL
- PEAT (FORMER MEADOW MAT)
- HISTORIC INDUSTRIAL FILL (EMPLACED CIRCA 1900) GRAVEL, AND CONCRETE)
- GLACIAL TILL LAYER
- ASPHALT OR CONCRETE COVER

TITLE: FIGURE 3

ISOMETRIC VIEW OF GENERALIZED CONSTRUCTION OF CONCRETE LINED DITCH AND SURROUNDING STRATIGRAPHY SUBSURFACE

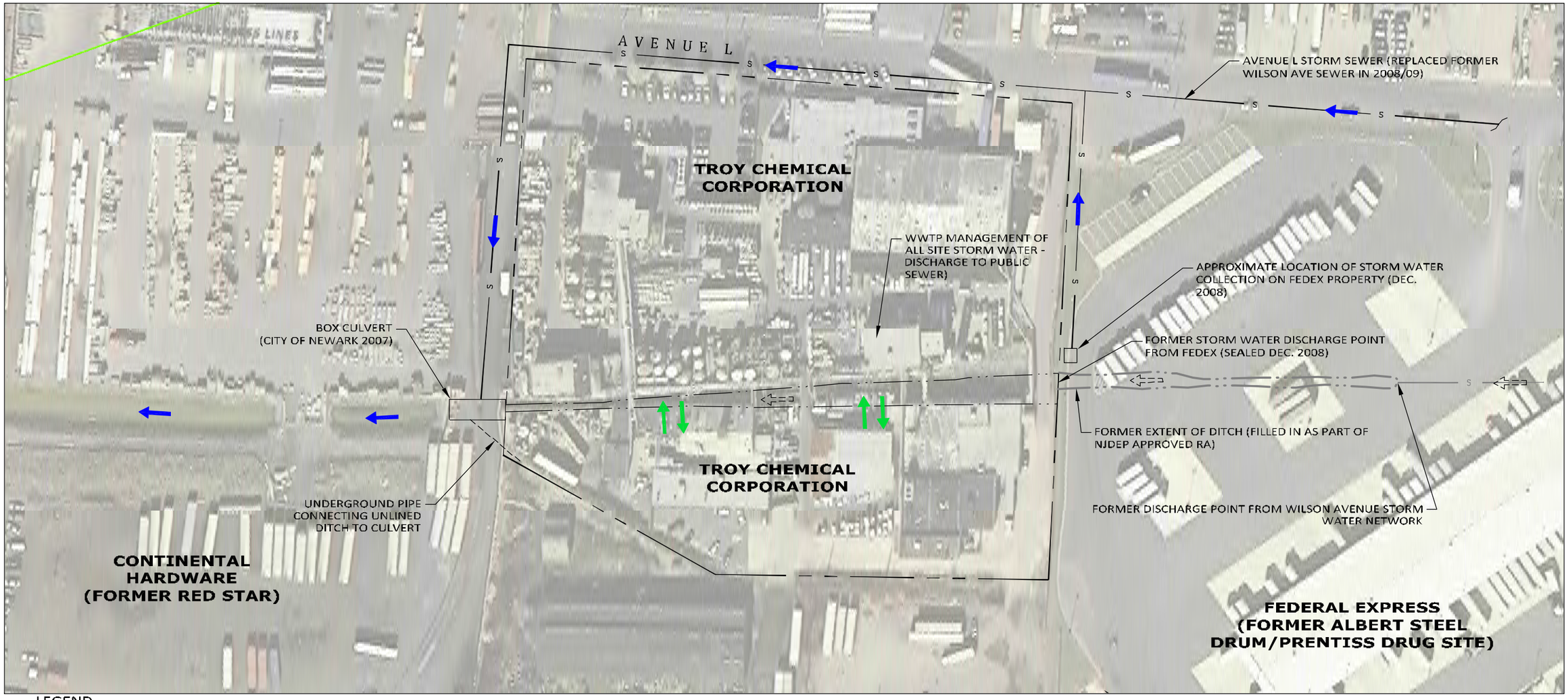
LOCATION: TROY CHEMICAL CORPORATION, INC.
ONE AVENUE L
NEWARK, NEW JERSEY

DATE: 2/27/12

FILENAME: 95127_ISO_SECTION

LAYOUT: ISO_SEC

THE ELM GROUP
218 WALL STREET, PRINCETON, NEW JERSEY 08540
4920 YORK ROAD, SUITE 290, HOLICONG, PENNSYLVANIA 18928 612
MAIN STREET, BOONTON, NEW JERSEY 07005
267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007
2475 BAGLYOS CIRCLE, BETHLEHEM, PENNSYLVANIA 18020
www.ExploreELM.com



LEGEND

- APPROXIMATE PROPERTY LINE FOR TROY CHEMICAL
- CURRENT EXTENT OF LINED DITCH
- APPROXIMATE LOCATION OF UNDERGROUND STORM WATER PIPING
- APPROXIMATE LOCATION OF CURRENT STORM SEWER LINES
- APPROXIMATE LOCATION OF FORMER WILSON AVENUE STORM SEWER LINE
- FORMER UPSTREAM EXTENT OF OPEN DITCH / STORM WATER SEWER
- CURRENT SURFACE WATER / STORM SEWER FLOW DIRECTION
- NOMINAL GROUND WATER TO STORM SEWER FLUX
- HISTORIC SURFACE WATER / STORM SEWER FLOW DIRECTION

NOTES:

1. LOCATIONS/EXTENT OF SECONDARY DRAINAGE DITCHES AND UNDERGROUND CONVEYANCE STRUCTURES (PIPING, CONDUITS, ETC.) ARE APPROXIMATE AND BASED ON SITE RECONNAISSANCE AND AERIAL PHOTOGRAPH REVIEW.

SOURCE:

1. "HYDRAULICS AND HYDROLOGY STUDY STREAM PLAN", PREPARED BY CIVIL ENGINEERING CORPORATION, DATED MARCH 1997, PROJECT NO. 97-048, DRAWING NOS. 4, 5 & 6 OF 11.
2. NEW JERSEY 2007-2008 HIGH RESOLUTION ORTHOPHOTOGRAPHY, NEW JERSEY OFFICE OF INFORMATION TECHNOLOGY, OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS, TILES #K7A1-07, K6C13-07, J7B4-07 AND J6D16-07.
3. FIGURE ENTITLED "ANALYTICAL SAMPLING RESULTS ABOVE PROPOSED REMEDIATION GOALS" PREPARED BY L. ROBERT KIMBALL & ASSOC., INC., DATED 1/29/98, REVISED DATE 6/

0 100 200

SCALE: 1" = 100'

TITLE:

FIGURE 4

CURRENT AND HISTORIC FLOW PATTERNS ASSOCIATED WITH THE LINED DITCH

LOCATION:
TROY CHEMICAL CORPORATION, INC.
ONE AVENUE L
NEWARK, NEW JERSEY

DATE: 2/27/12

FILENAME: 95127-07_PIERSONS-DLUR_MTG

LAYOUT: PCB_PLAN (2)

The ELM Group
216 WALL STREET, PRINCETON, NEW JERSEY 08540
4822 YORK ROAD, SUITE 252, HOLICONG, PENNSYLVANIA 18928-9512
MAIN STREET, BOONTON, NEW JERSEY 07005
257 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007
2475 BASSETT CIRCLE, BETHLEHEM, PENNSYLVANIA 18020
www.ExploreELM.com

PC-1	EAST			WEST		
SAMPLE DEPTH	0	2	3.5	0	2.5	3
TOTAL PCBs	3.9	12.4	0.15	14.2	**72**	**60**

PC-2	EAST			WEST		
SAMPLE DEPTH	0	2	3	0	2	4
TOTAL PCBs	16.1	1.05	ND	1.9	1.9	21

PC-3	EAST			WEST		
SAMPLE DEPTH	0	1	2.5	0	1	3.5
TOTAL PCBs	22.4	14.5	33	10.8	7.6	**68**

PC-5	EAST			WEST		
SAMPLE DEPTH	0	1	2.5	0	1.5	2
TOTAL PCBs	8.8	16.9	**57**	6.2	**60**	**144**

PC-3-50S	EAST		WEST	
SAMPLE DEPTH	2	3.5	2	3.5
TOTAL PCBs	18.6	6.2	5.8	**115**

PC-1-10S	EAST		WEST	
SAMPLE DEPTH	2	3	2	3
TOTAL PCBs	1.5	1.9	1.9	11.7

PC-3-20S	EAST		WEST	
SAMPLE DEPTH	2	3.5	2	3.5
TOTAL PCBs	4.1	**140**	4	11.8

PC-3-20N	EAST		WEST	
SAMPLE DEPTH	2	3.5	2	3.5
TOTAL PCBs	1.5	3.3	2.7	21.3

PC-4	EAST			WEST		
SAMPLE DEPTH	0	1.5	2	0	1.5	2
TOTAL PCBs	1.5	4.4	14.5	4	16.5	45

PC-5-25N	EAST			WEST		
SAMPLE DEPTH	1.5	2	2.5	1.5	2	2.5
TOTAL PCBs	5.9	17.9	6.2	26	19.9	33

PC-5-10N	EAST			WEST		
SAMPLE DEPTH	1.5	2	2.5	1.5	2	2.5
TOTAL PCBs	3.6	2.9	10.7	7.2	15.8	**53**

PC-1-10S
PC-1
PC-2
PC-3-20N
PC-3
PC-3-50S
PC-4
PC-5-10N
PC-5
PC-5-25N
PC-3-20S
CONCRETE-LINED DITCH
BOX CULVERT
UNLINED DITCH
TROY CHEMCIAL CORPORATION
BELL ATLANTIC 1-100 PR. 24 GA. CBL.
BELL ATLANTIC 1-600 PR. 26 GA. CBL.
LOCATION OF FORMER STORMWATER PIPING ORIGINATING FROM FEDERAL EXPRESS PROPERTY (SEALED AND ABANDONED)
PARKING AREA
TANK
PIPE
PIPES
OVERHEAD PIPE
PSE&G

LEGEND

- TROY PROPERTY LINE
- FENCE
- PC-1 — SAMPLING TRANSECT LOCATION AND ID
- AREA TO BE REMEDIATED
- <50 mg/kg PCB
- >50 mg/kg PCB

PC-1	EAST	TRANSECT LOCATION AND ID
SAMPLE DEPTH	0	SAMPLE DEPTH
TOTAL PCBs	3.9	TOTAL PCBs RESULT IN mg/Kg (SSG LEL/SEL = 0.07/53)
ND		NOT DETECTED

NOTES:

1. ALL RESULTS ARE IN mg/Kg.
2. **BOLD VALUE INDICATES PCB CONCENTRATION EXCEEDS 50 mg/Kg.**
3. LOCATIONS/EXTENT OF UNDERGROUND SURFACE WATER CONVEYANCE STRUCTURES (PIPING, CONDUITS, ETC.) ARE APPROXIMATE AND BASED ON SITE RECONNAISSANCE AND AERIAL PHOTOGRAPH REVIEW.

SOURCE:

1. "HYDRAULICS AND HYDROLOGY STUDY STREAM PLAN", PREPARED BY CIVIL ENGINEERING CORPORATION, DATED MARCH 1997, PROJECT NO. 97-048, DRAWING NOS. 4, 5 & 6 OF 11.

0 40 80

SCALE: 1" = 40'

TITLE:

FIGURE 5

TOTAL PCB DATA FOR LINED DITCH SHOWING AREAS WHERE CONCENTRATIONS EXCEED 50 mg/kg

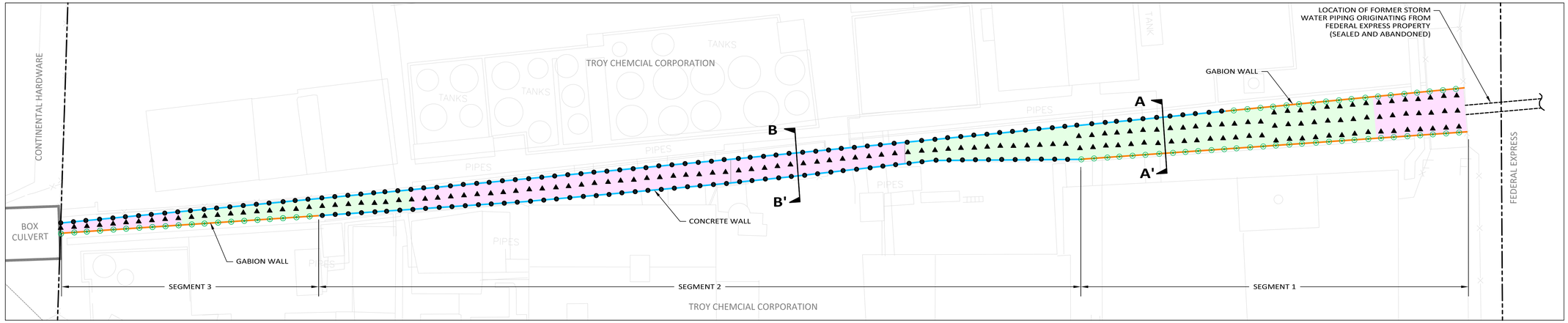
LOCATION:
TROY CHEMICAL CORPORATION, INC.
ONE AVENUE L
NEWARK, NEW JERSEY

DATE: 2/24/12

FILENAME: 95127_SEDIMENT_RESULTS_REV2

LAYOUT: TSCA AREAS-B

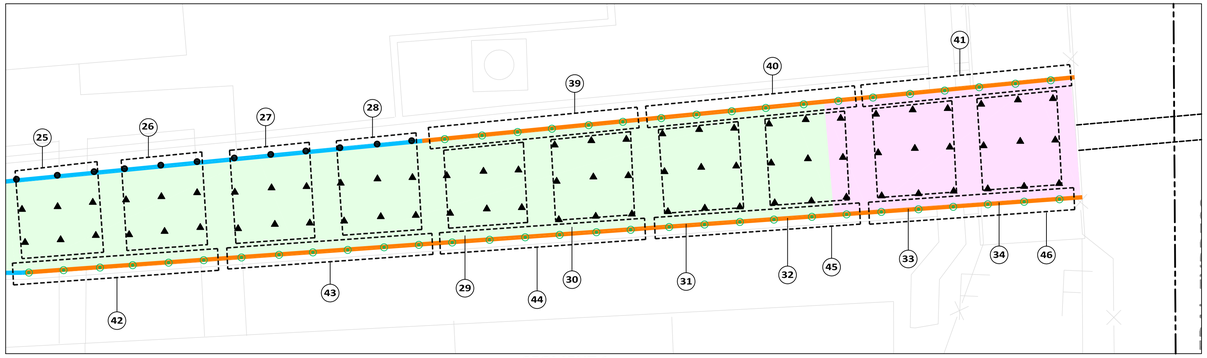
THE ELM GROUP
218 WALL STREET, PRINCETON, NEW JERSEY 08540
4920 YORK ROAD, SUITE 290, HOLICONG, PENNSYLVANIA 18928 612
MAIN STREET, BOONTON, NEW JERSEY 07005
267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007
2475 BAGLYOS CIRCLE, BETHLEHEM, PENNSYLVANIA 18020
www.ExploreELM.com



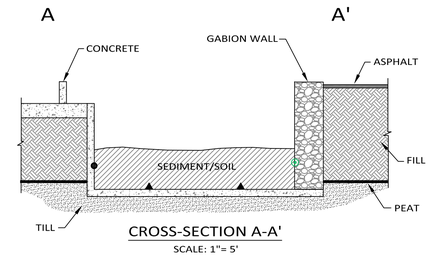
OVERALL SAMPLING MAP
SCALE: 1"=20'

LEGEND

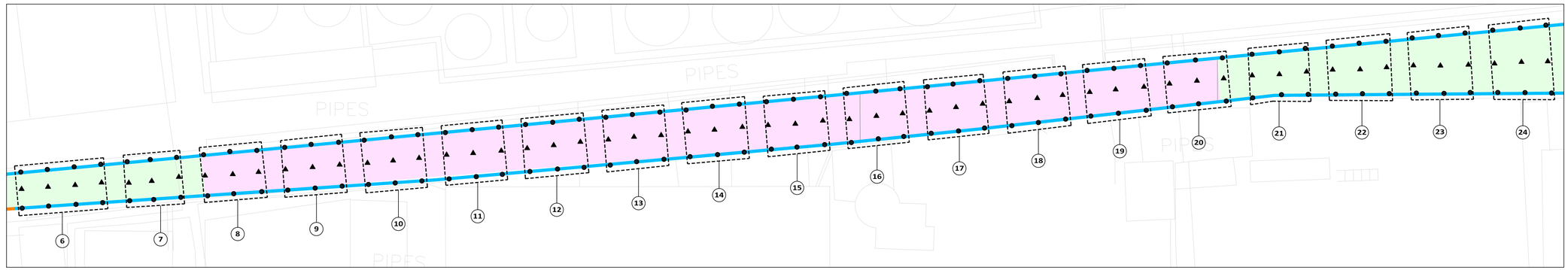
- TROY PROPERTY LINE
- FENCE
- <50 mg/kg PCB
- >50 mg/kg PCB
- CONCRETE WALL
- GABION WALL
- SIDEWALL CONCRETE SUBSAMPLE
- BOTTOM CONCRETE SUBSAMPLE
- SIDEWALL GABION SUBSAMPLE
- COMPOSITE SAMPLE AND ID (e.g. 34)



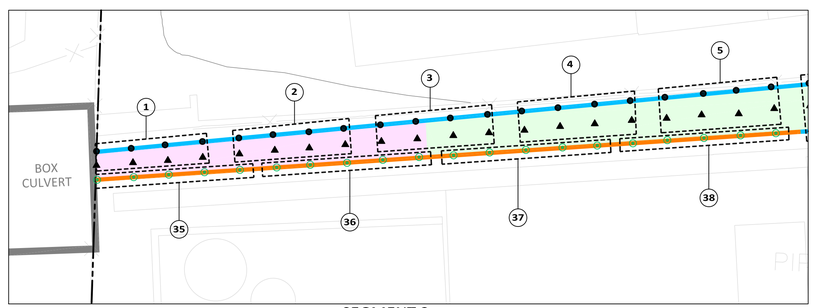
SEGMENT 1
SCALE: 1"= 10'



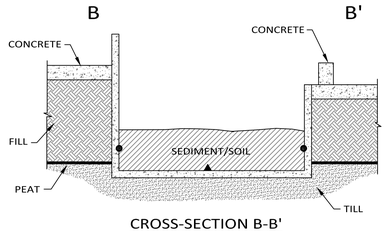
CROSS-SECTION A-A'
SCALE: 1"= 5'



SEGMENT 2
SCALE: 1"= 10'



SEGMENT 3
SCALE: 1"= 10'



CROSS-SECTION B-B'
SCALE: 1"= 5'

NOTES:

1. SIDEWALL SUBSAMPLES WILL BE COLLECTED FROM THE INTERIOR OF THE DITCH WALLS AT THE DEPTH BELOW TO TOP OF REMOVED SEDIMENT.
2. GABION SUBSAMPLES WILL NOT BE COMPOSITED WITH CONCRETE SUBSAMPLES.
3. IF AREAS ARE ENCOUNTERED HAVING NO CONCRETE BOTTOM, SOIL SAMPLES OF THE UNDERLYING GLACIAL TILL, SOIL SAMPLES WILL NOT BE COMPOSITED WITH CONCRETE OR GABION SAMPLES.

SOURCE:

1. "HYDRAULICS AND HYDROLOGY STUDY STREAM PLAN", PREPARED BY CIVIL ENGINEERING CORPORATION, DATED MARCH 1997, PROJECT NO. 97-048, DRAWING NOS. 4, 5 & 6 OF 11.

0 20 40
SCALE: 1" = 20'

TITLE: FIGURE 6
POST-EXCAVATION VERIFICATION SAMPLING PLAN

LOCATION: TROY CHEMICAL CORPORATION, INC.
ONE AVENUE L
NEWARK, NEW JERSEY

DATE: 2/27/12

FILENAME: 95127_TSCA SAMPLING

LAYOUT: TSCA SAMPLING (2)

THE ELM GROUP
218 WALL STREET, PRINCETON, NEW JERSEY 08540
4920 YORK ROAD, SUITE 256, HOLICONG, PENNSYLVANIA 18928-612
MAIN STREET, BOONTON, NEW JERSEY 07005
267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007
2475 BAGLYOS CIRCLE, BETHLEHEM, PENNSYLVANIA 18020
www.theelmEHS.com

TABLES

Table 1: Summary of PCB Analytical Data

Table 1
Summary of PCB Analytical Data
Troy Chemical Corporation, Inc.
Newark, New Jersey

	Transect PC-1						Transect PC-1-10S				Transect PC-2					
	East			West			East		West		East			West		
Sample ID	PC-1-E_0.0	PC-1-E-2.0	PC-1-E_3.5	PC-1-W-0.0	PC-1-W_2.5	PC-1-W_3.0	PC-1-10S-E-2.0	PC-1-10S-E-3.0	PC-1-10S-W-2.0	PC-1-10S-W-3.0	PC-2-E-0.0	PC-2-E-2.0	PC-2-E-3.0	PC-2-W-0.0	PC-2-W-2.0	PC-2-W-4.0
Laboratory ID	921502	921501	921504	921506	921507	921508	AC61243-001	AC61243-002	AC61243-003	AC61243-004	921511	921514	921515	921516	921518	921519
Sample Media	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample Collection Date	05/21/08	05/21/08	05/21/08	05/21/08	05/21/08	05/21/08	8/17/2011	8/17/2011	8/17/2011	8/17/2011	05/21/08	05/21/08	05/21/08	05/21/08	05/21/08	05/21/08
Sample Analysis Date	6/2/2008	6/5/2008	6/2/2008	6/5/2008	6/5/2008	6/5/2008	8/23/2011	8/23/2011	8/23/2011	8/24/2011	6/5/2008	6/2/2008	6/2/2008	6/2/2008	6/2/2008	6/5/2008
Sample Depth (feet)	0.0 - 0.5	2.0 - 2.5	3.5 - 4.0	0.0 - 0.5	2.5 - 3.0	3.0 - 3.5	2.0-2.5	3.0-3.5	2.0-2.5	3.0-3.5	0.0 - 0.5	2.0 - 2.5	3.0 - 3.5	0.0 - 0.5	2.0 - 2.5	4.0 - 4.5
% Moisture	52	52.6	33.1	24	33.2	25.1	52	56	44	45	57	26.5	19.8	46	51.7	32.9
Unit of Measure	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Polychlorinated Biphenyls (PCBs)																
Aroclor 1016	0.14 U	0.71 U	0.10 U	0.88 U	5.0 U	4.5 U	0.052 U	0.057 U	0.045 U	0.45 U	0.78 U	0.091 U	0.084 U	0.12 U	0.14 U	2.0 U
Aroclor 1221	0.14 U	0.71 U	0.10 U	0.88 U	5.0 U	4.5 U	0.052 U	0.057 U	0.045 U	0.45 U	0.78 U	0.091 U	0.084 U	0.12 U	0.14 U	2.0 U
Aroclor 1232	0.14 U	0.71 U	0.10 U	0.88 U	5.0 U	4.5 U	0.052 U	0.057 U	0.045 U	0.45 U	0.78 U	0.091 U	0.084 U	0.12 U	0.14 U	2.0 U
Aroclor 1242	0.14 U	0.71 U	0.10 U	0.88 U	56	47	0.31	0.57	0.53	3.5	0.78 U	0.091 U	0.084 U	0.12 U	0.14 U	18
Aroclor 1248	2.2	8.4	0.15	10	5.0 U	4.5 U	0.052 U	0.057 U	0.045 U	0.45 U	10	0.59	0.084 U	0.12 U	0.14 U	2.0 U
Aroclor 1254	0.14 U	0.71 U	0.10 U	0.88 U	5.0 U	4.5 U	0.052 U	1.3	1.4	8.2	0.78 U	0.091 U	0.084 U	1.9	1.9	2.0 U
Aroclor 1260	1.7	4.0	0.10 U	4.2	16	13	1.2	0.057 U	0.045 U	0.45 U	6.1	0.46	0.084 U	0.12 U	0.14 U	3.0
Aroclor 1262	0.14 U	0.71 U	0.10 U	0.88 U	5.0 U	4.5 U	0.052 U	0.057 U	0.045 U	0.45 U	0.78 U	0.091 U	0.084 U	0.12 U	0.14 U	2.0 U
Aroclor 1268	0.14 U	0.71 U	0.10 U	0.88 U	5.0 U	4.5 U	0.052 U	0.057 U	0.045 U	0.45 U	0.78 U	0.091 U	0.084 U	0.12 U	0.14 U	2.0 U
Total PCBs	3.9	12.4	0.15	14.2	**72**	**60**	1.5	1.9	1.9	11.7	16.1	1.05	0.084 U	1.9	1.9	21

	Transect PC-3-20N				Transect PC-3						Transect PC-3-20S			
	East		West		East			West			East		West	
Sample ID	PC-3-20N-E-2.0	PC-3-20N-E-3.5	PC-3-20N-W-2.0	PC-3-20N-W-3.5	PC-3-E-0.0	PC-3-E-1.0	PC-3-E-2.5	PC-3-W-0.0	PC-3-W-1.0	PC-3-W-3.5	PC-3-20S-E-2.0	PC-3-20S-E-3.5	PC-3-20S-W-2.0	PC-3-20S-W-3.5
Laboratory ID	AC61243-012	AC61243-011	AC61243-013	AC61243-014	921523	921525	921522	921527	921526	921529	AC61243-017	AC61243-018	AC61243-019	AC61243-020
Sample Media	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample Collection Date	8/17/2011	8/17/2011	8/17/2011	8/17/2011	05/21/08	05/21/08	05/21/08	05/21/08	05/21/08	05/21/08	8/17/2011	8/17/2011	8/17/2011	8/17/2011
Sample Analysis Date	8/23/2011	8/23/2011	8/23/2011	8/25/2011	6/5/2008	6/5/2008	6/5/2008	6/5/2008	6/5/2008	6/9/2008	8/23/2011	8/24/2011	8/26/2011	8/24/2011
Sample Depth (feet)	2.0-2.5	3.5-4.0	2.0-2.5	3.5-4.0	0.0 - 0.5	1.0 - 1.5	2.5 - 3.0	0.0 - 0.5	1.0 - 1.5	3.5 - 4.0	2.0-2.5	3.5-4.0	2.0-2.5	3.5-4.0
% Moisture	50	35	53	40	57	40.7	39.5	42	49.9	41	44	40	44	39
Unit of Measure	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Polychlorinated Biphenyls (PCBs)														
Aroclor 1016	0.05 U	0.038 U	0.053 U	0.42 U	1.6 U	0.56 U	2.8 U	0.58 U	0.67 U	2.3 U	0.045 U	4.2 U	0.045 U	0.2 U
Aroclor 1221	0.05 U	0.038 U	0.053 U	0.42 U	1.6 U	0.56 U	2.8 U	0.58 U	0.67 U	2.3 U	0.045 U	4.2 U	0.045 U	0.2 U
Aroclor 1232	0.05 U	0.038 U	0.053 U	0.42 U	1.6 U	0.56 U	2.8 U	0.58 U	0.67 U	2.3 U	0.045 U	4.2 U	0.045 U	0.2 U
Aroclor 1242	0.57	2.2	1.6	13	16	8.1	33	0.58 U	0.67 U	32	2.6	110	2.7	9.2
Aroclor 1248	0.05 U	0.038 U	0.053 U	0.42 U	1.6 U	0.56 U	2.8 U	7.0	4.9	2.3 U	0.045 U	4.2 U	0.045 U	0.2 U
Aroclor 1254	0.05 U	0.038 U	0.053 U	0.42 U	1.6 U	0.56 U	2.8 U	0.58 U	0.67 U	2.3 U	0.045 U	4.2 U	0.045 U	0.2 U
Aroclor 1260	0.9	1.1	1.1	8.3	6.4	6.4	2.8 U	3.8	2.7	36	1.5	30	1.3	2.6
Aroclor 1262	0.05 U	0.038 U	0.053 U	0.42 U	1.6 U	0.56 U	2.8 U	0.58 U	0.67 U	2.3 U	0.045 U	4.2 U	0.045 U	0.2 U
Aroclor 1268	0.05 U	0.038 U	0.053 U	0.42 U	1.6 U	0.56 U	2.8 U	0.58 U	0.67 U	2.3 U	0.045 U	4.2 U	0.045 U	0.2 U
Total PCBs	1.5	3.3	2.7	21.3	22.4	14.5	33	10.8	7.6	**68**	4.1	140	4	11.8

Bold value indicates concentration exceeds PCB Remediation Waste threshold (50 mg/kg) per 40 CFR 70.61.

Notes:
NS = No Standard
U = Analyte not detected above indicated concentration

Table 1
Summary of PCB Analytical Data
Troy Chemical Corporation, Inc.
Newark, New Jersey

	Transect PC-3-50S				Transect PC-4						Transect PC-5-25N					
	East		West		East			West			East			West		
Sample ID	PC-3-50S-E-2.0	PC-3-50S-E-3.5	PC-3-50S-W-2.0	PC-3-50S-W-3.5	PC-4-E_0.0	PC-4-E_1.5	PC-4-E_2.0	PC-4-W_0.0	PC-4-W_1.5	PC-4-W_2.0	PC-5-25N-E-1.5	PC-5-25N-E-2.0	PC-5-25N-E-2.5	PC-5-25N-W-1.5	PC-5-25N-W-2.0	PC-5-25N-W-2.5
Laboratory ID	460-30592-1	460-30592-2	460-30592-3	460-30592-4	921070	921068	921062	921060	921059	921063	460-30592-5	460-30592-6	460-30592-7	460-30592-8	460-30592-9	460-30592-10
Sample Media	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample Collection Date	9/2/2011	9/2/2011	9/2/2011	9/2/2011	5/20/08	5/20/08	5/20/08	5/20/08	5/20/08	5/20/08	9/2/2011	9/2/2011	9/2/2011	9/2/2011	9/2/2011	9/2/2011
Sample Analysis Date	9/8/2011	9/7/2011	9/7/2011	9/9/2011	5/31/2008	5/31/2008	5/31/2008	5/31/2008	5/21/2008	5/31/2008	9/7/2011	9/9/2011	9/7/2011	9/9/2011	9/9/2011	9/9/2011
Sample Depth (feet)	2.0-2.5	3.5-4.0	2.0-2.5	3.5-4.0	0.0 - 0.5	1.5 - 2.0	2.0 - 2.5	0.0 - 0.5	1.5 - 2.0	2.0 - 2.5	1.5-2.0	2.0-2.5	2.5-3.0	1.5-2.0	2.0-2.5	2.5-3.0
% Moisture	47.4	53.5	40.1	42.7	47	41.7	36.6	54	40.4	29.5	42.5	39.1	44.6	50.8	60.8	54.2
Unit of Measure	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Polychlorinated Biphenyls (PCBs)																
Aroclor 1016	0.64 U	0.14 U	0.11 U	2.3 U	0.13 U	0.23 U	1 U	0.14 U	1.1 U	0.95 U	0.12 U	0.55 U	0.12 U	0.68 U	0.34 U	0.73 U
Aroclor 1221	0.64 U	0.14 U	0.11 U	2.3 U	0.13 U	0.23 U	1 U	0.14 U	1.1 U	0.95 U	0.12 U	0.55 U	0.12 U	0.68 U	0.34 U	0.73 U
Aroclor 1232	0.64 U	0.14 U	0.11 U	2.3 U	0.13 U	0.23 U	1 U	0.14 U	1.1 U	0.95 U	0.12 U	0.55 U	0.12 U	0.68 U	0.34 U	0.73 U
Aroclor 1242	0.64 U	0.14 U	0.11 U	2.3 U	0.13 U	0.23 U	1 U	0.14 U	1.1 U	0.95 U	0.12 U	0.55 U	0.12 U	0.68 U	0.34 U	0.73 U
Aroclor 1248	9.2	2.5	2.2	46	0.13 U	0.23 U	1 U	0.14 U	1.1 U	15	2.1	6.8	2.2	10	6.7	15
Aroclor 1254	5.5	2	1.9	31	0.13 U	1.8	6.1	2	7.1	11	1.9	5.6	2.1	8.5	6.5	12
Aroclor 1260	3.9	1.7	1.7	38	1.5	2.6	8.4	2	9.4	19	1.9	5.5	1.9	7.5	6.7	11
Aroclor 1262	0.64 U	0.14 U	0.11 U	2.3 U	0.13 U	0.23 U	1 U	0.14 U	1.1 U	0.95 U	0.12 U	0.55 U	0.12 U	0.68 U	0.34 U	0.73 U
Aroclor 1268	0.64 U	0.14 U	0.11 U	2.3 U	0.13 U	0.23 U	1 U	0.14 U	1.1 U	0.95 U	0.12 U	0.55 U	0.12 U	0.68 U	0.34 U	0.73 U
Total PCBs	18.6	6.2	5.8	**115**	1.5	4.4	14.5	4	16.5	45	5.9	17.9	6.2	26	19.9	38

	Transect PC-5-10N						Transect PC-5					
	East			West			East			West		
Sample ID	PC-5-10N-E-1.5	PC-5-10N-E-2.0	PC-5-10N-E-2.5	PC-5-10N-W-1.5	PC-5-10N-W-2.0	PC-5-10N-W-2.5	PC-5-E_0.0	PC-5-E_1.0	PC-5-E_2.5	PC-5-W_0.0	PC-5-W_1.5	PC-5-W_2.0
Laboratory ID	AC61243-031	AC61243-033	AC61243-032	AC61243-034	AC61243-035	AC61243-036	921072	921074	921064	921065	921069	921067
Sample Media	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sample Collection Date	8/17/2011	8/17/2011	8/17/2011	8/17/2011	8/17/2011	8/17/2011	5/20/08	5/20/08	5/20/08	5/20/08	5/20/08	5/20/08
Sample Analysis Data	8/26/2011	8/24/2011	8/23/2011	8/24/2011	8/24/2011	8/24/2011	5/31/2008	5/31/2008	5/31/2008	5/22/2008	5/31/2008	5/31/2008
Sample Depth (feet)	1.5-2.0	2.0-2.5	2.5-3.0	1.5-2.0	2.0-2.5	2.5-3.0	0.0 - 0.5	1.0 - 1.5	2.5 - 3.0	0.0 - 0.5	1.5 - 2.0	2.0 - 2.5
% Moisture	37	44	56	40	53	51	45	35.1	39.8	53	31.1	41.8
Unit of Measure	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Polychlorinated Biphenyls (PCBs)												
Aroclor 1016	0.04 U	0.45 U	0.057 U	0.21 U	0.53 U	1 U	0.24 U	0.52 U	4.4 U	0.14 U	1.9 U	5.8 U
Aroclor 1221	0.04 U	0.45 U	0.057 U	0.21 U	0.53 U	1 U	0.24 U	0.52 U	4.4 U	0.14 U	1.9 U	5.8 U
Aroclor 1232	0.04 U	0.45 U	0.057 U	0.21 U	0.53 U	1 U	0.24 U	0.52 U	4.4 U	0.14 U	1.9 U	5.8 U
Aroclor 1242	1.6	3.8	0.62	2.4	4.8	12	0.24 U	0.52 U	4.4 U	0.14 U	1.9 U	5.8 U
Aroclor 1248	0.04 U	0.45 U	0.057 U	0.21 U	0.53 U	1 U	3.9	6.6	4.4 U	2.6	1.9 U	5.8 U
Aroclor 1254	0.04 U	0.45 U	0.057 U	0.21 U	0.53 U	1 U	2.1	4.7	4.4 U	1.6	22	44
Aroclor 1260	2	6.9	2.3	4.8	11	41	2.8	5.6	57	2	38	100
Aroclor 1262	0.04 U	0.45 U	0.057 U	0.21 U	0.53 U	1 U	0.24 U	0.52 U	4.4 U	0.14 U	1.9 U	5.8 U
Aroclor 1268	0.04 U	0.45 U	0.057 U	0.21 U	0.53 U	1 U	0.24 U	0.52 U	4.4 U	0.14 U	1.9 U	5.8 U
Total PCBs	3.6	10.7	2.9	7.2	15.8	53	8.8	16.9	57	6.2	60	**144**

Bold value indicates concentration exceeds PCB Remediation Waste threshold (50 mg/kg) per 40 CFR 70.61.

Notes:
NS = No Standard
U = Analyte not detected above indicated concentration

ATTACHMENTS

Attachment 1: Schedule of Implementation

Attachment 2: Self-Implementing Cleanup Owner's Certification Regarding Location of Records

ATTACHMENT 1:

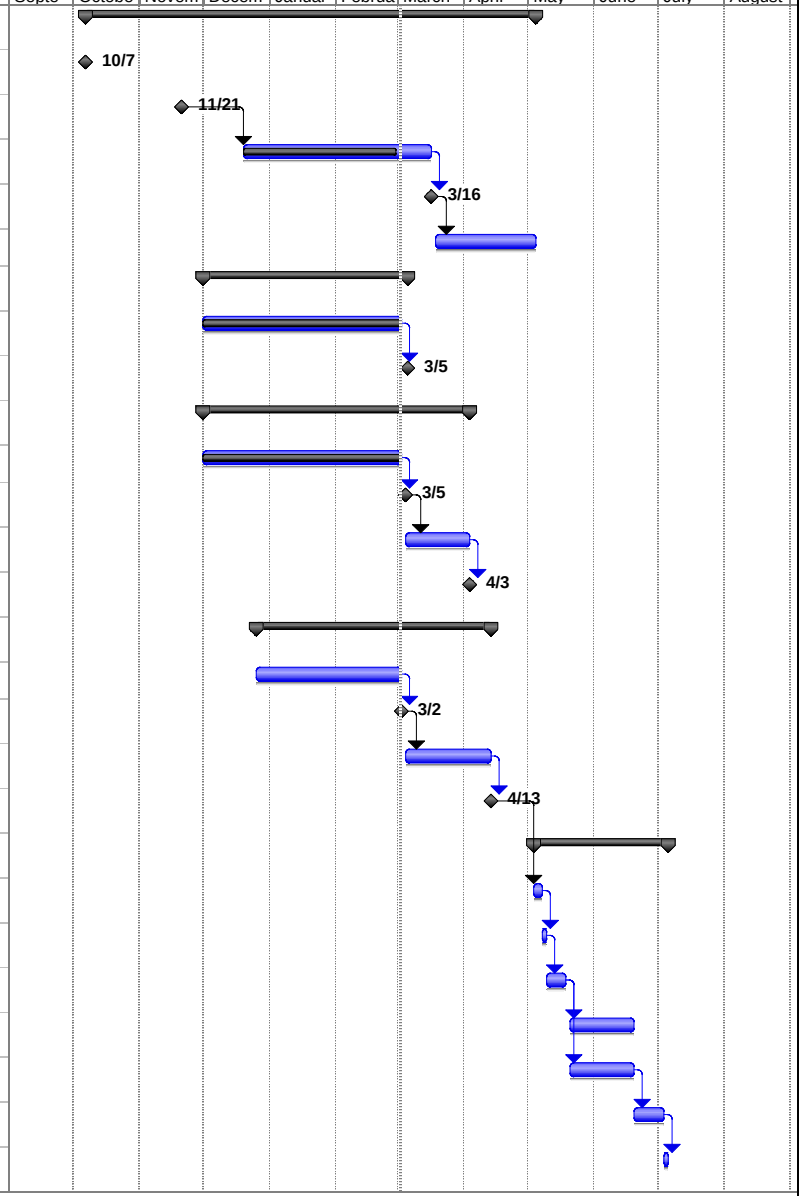
Schedule of Implementation

Remedial Action Schedule

Troy Chemical Corporation, Inc.

Newark, New Jersey

ID	Task Name	Duration	Start	Finish	Predecessors
1	**Bid Solicitation/Review & Contractor Selection/Coordination**	**151 days**	**Fri 10/7/11**	**Fri 5/4/12**	
2	Issue RFP for Remediation of Ditch	0 days	Fri 10/7/11	Fri 10/7/11	
3	Receive Contractor Bids	0 days	Mon 11/21/11	Mon 11/21/11	
4	Review of Contractor Bids	64 days	Tue 12/20/11	Fri 3/16/12	3
5	Contractor Selection	0 days	Fri 3/16/12	Fri 3/16/12	4
6	Contracting, Coordination, & Procurement of Municipal Permits	35 days	Mon 3/19/12	Fri 5/4/12	5
7	**Remedial Action Workplan**	**68 days**	**Thu 12/1/11**	**Mon 3/5/12**	
8	Preparation of RAW	67 days	Thu 12/1/11	Fri 3/2/12	
9	Submission of RAW to NJDEP	0 days	Mon 3/5/12	Mon 3/5/12	8
10	**TSCA Self-Implementing Cleanup Plan**	**89 days**	**Thu 12/1/11**	**Tue 4/3/12**	
11	Preparation of Self-Implementing PCB Cleanup Plan	67 days	Thu 12/1/11	Fri 3/2/12	
12	Submission of PCB Cleanup Plan to USEPA	0 days	Mon 3/5/12	Mon 3/5/12	11
13	USEPA Review of Cleanup Plan	22 days	Mon 3/5/12	Tue 4/3/12	12
14	USEPA Approval of Cleanup Plan	0 days	Tue 4/3/12	Tue 4/3/12	13
15	**DLUR Permitting**	**80 days**	**Mon 12/26/11**	**Fri 4/13/12**	
16	Preparation of DLUR GP4 and FHA Permit Applications	50 days	Mon 12/26/11	Fri 3/2/12	
17	Submission of GP4 and FHA Permit Applications	0 days	Fri 3/2/12	Fri 3/2/12	16
18	DLUR Review of Permit Applications	30 days	Mon 3/5/12	Fri 4/13/12	17
19	DLUR Approval of GP4 and FHA Permits	0 days	Fri 4/13/12	Fri 4/13/12	18
20	**Remedial Action Implementation**	**45 days**	**Fri 5/4/12**	**Thu 7/5/12**	
21	Contractor Mobilization and Site Preparation	2 days	Fri 5/4/12	Mon 5/7/12	19FS+14 days
22	Vegetation Clearing & Sealing of Ditch Culvert	2 days	Tue 5/8/12	Wed 5/9/12	21
23	In-Situ Stabilization of Sediment/Soil	7 days	Thu 5/10/12	Fri 5/18/12	22
24	Removal, Containerization, & Loadout of Sediment/Soil	22 days	Mon 5/21/12	Tue 6/19/12	23
25	Post-Excavation and PCB Verification Sampling	22 days	Mon 5/21/12	Tue 6/19/12	23
26	Backfilling of Ditch & Installation of Concrete Cap	10 days	Wed 6/20/12	Tue 7/3/12	25
27	Site Restoration and Demobilization	2 days	Wed 7/4/12	Thu 7/5/12	26



Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

ATTACHMENT 2:

Self-Implementing Cleanup Owner's Certification Regarding Location of Records

Self Implementing Cleanup

Owner's Certification Regarding Location of Records

In accordance with 40 CFR 761.61(a)(3)(E) this document serves as the Owner's Certification that all Sampling Plans, Sample Collection Procedures, Sample Preparation Procedures, Extraction Procedures and Instrumentation/Chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site are on file at the location identified below and are available for inspection by the USEPA.

Cleanup Site Name/Address: Troy Chemical Corporation, Inc.
One Avenue L, Newark, New Jersey 07105

Location of Records: The ELM Group, Inc.
218 Wall Street, Research Park, Princeton, New Jersey 08540

Signature: /Robert Okin/

Name: Robert Okin

Company Name: Troy Corporation